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The Emotion of Space by Daniel S. Goldin, NASA Administrator

Not too long after I became NASA Administrator I ran into a friend. She talked to me about the space program and took the opportunity to test me.

She asked, "Why do we spend money on space when there are so many ills here on Earth?"

Instead of describing the incredible scientific research we do or making the case for the investment we make in America's future, I said "Come to a launch and you will understand."

I dispensed this advice based on my own experience. Prior to coming to NASA, I worked for a major space company, and for a time I was responsible for many of the Shuttle's large payloads.

I was proud of my work. I could talk about the potential for discovery, the edge it gives our economy and how some projects were crucial for our nation's security. But, like my friend, I didn't truly grasp the significance of human space exploration. I rarely went to the Kennedy Space Center for launches and, somewhat selfishly, I only kept in touch by phone to learn of our spacecraft's release into orbit.

It wasn't until I started to make a point to watch the launches that I understood the emotion of space.

As the person who has ultimate responsibility for the safety of the astronauts, it was no longer a business proposition. Knowing the astronauts, knowing their families, all of us on the NASA team know we each must do our jobs right. In the dynamic moments before liftoff, we wish them a successful mission and a safe return home.

We make it as safe as possible, but we also know that the men and women aboard that Space Shuttle are risking their lives to open the space frontier and to enhance life on Earth.

Viewing a Space Shuttle launch is not an intellectual experience, rather it is an emotional one. And like most things in life, it cannot be fully appreciated through a lens or played back on a television screen. In the moments before launch

there is always a tension I can never seem to adequately describe.

I don't watch launches from the control center partly because I want the members of the launch team to take full responsibility for their tasks and to remain accountable. Their jobs require split-second decision making skills. Conventional wisdom may call for added layers of supervision in such a critical situation. In this case, however, delayed judgment could be the difference between success and failure.

For me, the place to watch is outside on the bleachers with friends, family, employees, fellow Americans and our foreign guests. Together, we share one of the most awesome displays of sheer power as the astronauts are catapulted to space.

As the launch time approaches more and more people arrive. The viewing site becomes a beehive of activity. Cameras start whirring. Conversations grow louder. The combination of sounds drown out the pre-launch commentary.

It isn't until built-in hold occurs at about T-minus nine minutes and a call from launch control

declares all-systems are GO that there is a shift in the crowd's mood. There is brief applause. But as the countdown resumes, so does the chatter and movement.

Shortly after, the Star Spangled Banner begins to play over the loudspeaker and for the first time the crowd seems to appreciate the weight of the moment. Some people are singing, some are saluting and some are praying silently. The Space Shuttle and the launch tower appear to be standing at military attention. The words to the National Anthem play through your mind like they have a thousand times before. But this time, at "the home of the brave," a giant lump has formed in your throat and a mist has glazed your eyes.

As the countdown clock ticks away, you cannot help but think that people are sitting atop 4.5 million pounds of high-energy fuels and complex aerospace machinery. Subconsciously, it becomes a life and death experience. First your breathing slows, then your heartbeat becomes noticeable and then

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Goldin Calls Cuts To NASA Budget 'Devastating'

"The NASA team just launched Chandra, the world's most powerful space telescope," NASA Administrator Dan Goldin said. "Today, we will have to turn it back on Washington to see what remains of the NASA budget."

Monday night, July 26, a U.S. House of Representatives subcommittee passed a funding bill that cuts NASA's budget about 11 percent below the President's request for Fiscal Year 2000.

"Year after year, NASA is touted for doing more and more with smaller budgets and held up as a model of good government," said Goldin. "The NASA employees get up every day to achieve what most think is impossible. They have risen to the challenge of smaller budgets. And this is the reward the NASA team gets? Not only is this cut devastating to NASA's programs, it is a knife in the heart of employee morale.

"It is a shame that in the same week that we are celebrating the legacy of the space program — and we are building on it by sending the first woman to command the Space Shuttle — we could be effectively smashing one of America's crown jewels," Goldin said. "NASA continues to deliver amazing scientific discoveries and reach new heights of exploration. To many Americans, NASA is a cornerstone of our national pride. But there is nothing to be proud of in this budget.

"Over the past five years, NASA has restructured the Agency, done more with less, reduced government employees by one-third without forced layoffs, and still significantly increased productivity. Up until now, NASA has always stepped up to the budgetary challenge. This time the NASA team plans to fight. These cuts would gut space exploration. They may force the closure of one to three NASA centers, and significant layoffs would most certainly follow," said Goldin.

The Administrator noted other implications for the budget as well:

* For the past seven years, the NASA budget has declined and, because of inflation, the Agency's buying power is already down by one-third.

* While the subcommittee's cuts total \$1.325 billion, if these figures are projected out five years, the cuts would total approximately \$5.3 billion.

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STS 93 crew with Space Shuttle Columbia in the background.

(Emotion of Space contiued from Front Page)

an uncomfortable muscle tension fills your body. You don't want to talk with anyone and your eyes are fixed on the Shuttle. You begin listening intently to the words of the launch commentary to try and pick up any nuances. Are there any problems?

We make it as safe as possible, but we know that the men and women aboard that Space Shuttle are risking their lives to open the space frontier and to enhance life on Earth.

As you watch from 3 miles away, you try to imagine what must be going through each astronaut's mind in the moments before liftoff. My adrenaline is flowing and I'm not one of the people that's about to go 17,500 miles per hour to space. Just 15 minutes ago you were part of a crowd and now, you might as well be alone as you stand among thousands of others who do the same amid the silence.

"T minus 10 - 9 - 8 - ..." It feels like an eternity, is it just me? "7 - 6 - ..."

The engines are lighting and we haven't even reached T-minus 1 yet, what's going on? "5 - 4 - 3 - ..." Wait, flames are pouring out and the Shuttle just moved back and forth in the tower. Is something wrong? "2 - 1 - Liftoff of the Space Shuttle ..."

Slowly, as if in time-lapse photography, the Shuttle climbs upward. At first, it seems surreal as the massive spaceship appears to hover at the tower, yet it is still eerily quiet. Still in a dreamlike state, you see huge clouds of smoke and then a light from the rocket's engine that seems nearly as bright as the Sun. Out of nowhere a rumbling shock wave comes across the water and the sound reaches your chest and shakes you back to reality. It seems like the soundman has realized he forgot to connect the speakers when an unnatural thundering crackle from the Shuttle's engines reaches alarming levels. What's that sound, is that supposed to happen?

In just a few seconds any doubts that the rocket is powerful enough are dispelled. Once those twin solid rockets are lit, at T-zero, there is no turning them off. Then at 40 seconds, to ensure the vehicle's pressure limitations are not exceeded, the three main engines are throttled down to idle. Straight up, faster than the speed of sound.

At 70 seconds, the astronauts get a command from mission control to urge the beast back to full-throttle. A knot forms in your gut and all ears are honed in on the launch commentator as he calls the order, "Go at throttle up." Challenger passes through my mind. Another few seconds slowly drip by until the commander calls back and says, "We're go at full throttle."

Two minutes and five seconds — at nearly five times the speed of sound, the expended solid rocket engines are jettisoned and parachute into the ocean. Another call to the astronauts is made: "Performance nominal."

The almost insignificant term is the astronauts' signal that the first stage of their journey to space is safely behind them. I heave a sigh of relief and the weight begins to lift from my shoulders. A light streaks higher and higher, leaving a graceful white trail in its wake.

As the engines' sounds fade away, we all try to follow the astronauts' path. Soon, they have disappeared into orbit. But it isn't until eight and a half minutes later when the engine's explosive hydrogen and liquid oxygen fuels are depleted that we hear the call for main engine cut-off. Our astronauts have climbed safely to orbit. Thank God. We take our first real breath since liftoff and then let out a big cheer.

We make it as safe as possible, but we know that the men and women aboard that Space Shuttle are risking their lives to open the space frontier and to enhance life on Earth.

I ran into my friend at a speech shortly after she saw her first launch. She said, "Dan, I have to talk to you." I said, "I'm about to deliver a speech. Can we talk later?" "No," she said, "I have to tell you that I went to see the Space Shuttle launch. I realized that there were 3 million things that could go wrong, but they didn't. I understand and I cried."

She got it.

Yes, NASA has cool robots that rove other planets and cutting-edge telescopes that peer into other galaxies, but the heart and soul of NASA are our astronauts. They are the role models on which children pin their hopes and dreams. They connect us with our ancestors, those who founded this great country and bravely explored the next unknown horizon. And they help us understand that we are only human.

(Budget Cuts continued from Front Page)

* Over the past five years, NASA's streamlining efforts have saved the taxpayer \$35 billion.

"This cut destroys the technology base built by NASA," Goldin said. "Our ability to further reduce costs and increase scientific productivity would end. NASA is one of only a few investments our nation makes to ensure a bright future, a strong economy and the technology base to achieve it. As a result of the cuts, we would be forced to eat our seed corn, and in the long-term it would weaken America's technological and defense sectors. Perhaps most sadly, we will lose the opportunity to inspire a future generation of children."

"I won't feel better until every nickel is restored," said Goldin.

Wallops Shorts.....

Group Leader Appointed
Arnold L. Torres, Director of Sub-orbital Projects and Operations has announced that effective July 18, Thomas Moskios was appointed Group Leader of the Ground Safety Group within the Safety Office.

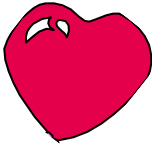
Wallops Fire Department
Wallops Fire Department (WFD) responded with the Hazmat trailer to the scene of a motor vehicle accident, July 23, on the Chincoteague Road to assist with cleanup of a fuel spill.

WFD Emergency Medical Technicians responded to a mutual aid request from Accomack County 911 to the scene of a motor vehicle accident at the intersection of Chincoteague and Atlantic Road on July 26.

WFD personnel responded to a request from Chincoteague Volunteer Fire Department for stand-by assistance on July 28.

Sounding Rocket Launch
A Black Brant V NASA sounding rocket was launched from Esrange, Sweden on July 27. The experiment was to identify water ice in the noctilucent cloud aerosol and to measure ozone by direct infrared emission and airglow techniques in the vertical and limb viewing geometries. An anomaly occurred during the boost phase of the mission, and the vehicle did not achieve the predicted roll rate. Experiment systems deployed and collected data with the exception of the ATOX booms. Dr. Patrick Espy, Embry-Riddle Aeronautical University was the principal investigator.

Have a Heart
Donate Blood



Wallops Blood Drive
Blood Bank
of the Eastern Shore
August 12
9 a.m. to 3 p.m.

Anyone willing to donate blood is requested to contact Linda Layton, x1561.

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